

HIGH RESPONSE, COMPACT TURBOCHARGER

ABSTRACT

Turbochargers of this invention comprise a turbine housing and a turbine wheel
5 rotatably disposed therein. A center housing is connected to the turbine housing, and a
compressor housing is attached to the center housing. A compressor is rotatably disposed within
the compressor housing, and comprises two impellers placed in back-to-back orientation. A
movable member is disposed within the compressor housing to downstream of the compressor to
control the flow of air within the compressor housing. The position of the movable member can
10 be operated to control the amount of pressurized air that is produced by one of the compressor
impellers to provide enhanced compressor operating efficiency throughout the operating range
and mass flow requirements of the engine.